

WHAT IS CLAIMED IS:

1. A circular pole piece included in a magnetic circuit for magnetic resonance imaging (MRI), wherein laminate blocks each of which has hexagonal soft magnetic material tiles layered are arranged so that the blocks will have a substantially circular shape as a whole.

2. A circular pole piece according to Claim 1, wherein said laminate block has hexagonal directional magnetic steel sheet tiles, which are identical to one another, layered with the directions of the axes of easy magnetization thereof varied by 60° so that the tiles will exhibit a non-directional property as a whole.

3. A circular pole piece according to Claim 1, wherein said laminate block has hexagonal directional magnetic steel sheet tiles, which are identical to one another, layered with the directions of the axes of easy magnetization thereof varied by 60° so that the tiles will exhibit a non-directional property as a whole, and has a non-directional magnetic steel sheet tile, which is devoid of an axis of easy magnetization, layered in combination with the directional magnetic steel sheet tiles.

4. A circular pole piece according to Claim 1, wherein said laminate block has non-directional magnetic steel sheet tiles, which are devoid of an axis of easy magnetization, layered.

5. A circular pole piece according to Claim 1, wherein one side of said soft magnetic material tile is approximately 2.5 cm or less in length.

6. A laminate block manufacturing method comprising the steps of:

hexagonally cutting a directional magnetic steel sheet, which has an axis of easy magnetization, using a die so as to produce directional magnetic steel sheet tiles;

layering a plurality of directional magnetic steel sheet tiles with the axes of easy magnetization thereof turned by 60° so that the tiles will exhibit a non-directional property as a whole; and

integrating the tiles using an adhesive, through caulking, or using a rivet or screw.

7. A laminate block manufacturing method comprising the steps of:

hexagonally cutting a directional magnetic steel sheet, which has an axis of easy magnetization, using a die so as to produce directional magnetic steel sheet tiles;

hexagonally cutting a non-directional magnetic steel sheet, which is devoid of an axis of easy magnetization, using a die so as to produce non-directional magnetic steel sheet tiles;

layering a plurality of directional magnetic steel sheet tiles with the axes of easy magnetization thereof turned by 60° so that the tiles will exhibit a non-directional property as a whole, and layering the non-directional magnetic steel sheet tile in combination with the directional magnetic steel tiles; and

integrating the tiles using an adhesive, through caulking, or using a rivet or screw.

8. A laminate block manufacturing method comprising the steps of:

hexagonally cutting a non-directional magnetic steel sheet devoid of an axis of easy magnetization using a die so as to produce non-directional magnetic steel sheet tiles;

layering a plurality of non-directional magnetic steel sheet tiles; and

integrating the tiles using an adhesive, through caulking, or using a rivet or screw.

9. An MRI system employing a circular pole piece of Claim 1.